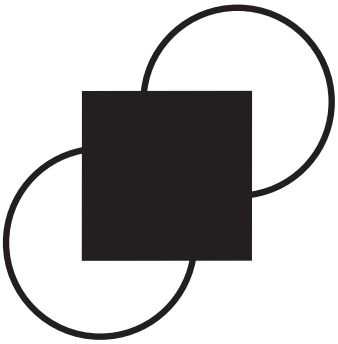

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SUSTAINABILITY FROM DESIGN. CRITICAL OVERVIEW, ANALYSIS AND DISAMBIGUATION

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Abstract

Sustainable human development has become a need in today's globalised world. Design, understood as a cultural phenomenon, is not unrelated to this need, as can be seen both in practice through many of the products designed with sustainable values, and in theory through the numerous publications that are being produced around issues related to sustainable processes. However, the complexity of the significance of sustainable design demands a critical approach to the concept of sustainability in order to establish a disambiguation of the term, which is misused in many contexts.

This paper offers a global analysis that integrates the origins, evolution, components and situation of sustainable design in the socio-economic framework, with the aim of breaking with partial approaches and helping to understand the term correctly, while proposing the basis for moving towards a change in the current model.

In order to disambiguate the term of sustainable design, this study uses a methodology based both on the analysis of works by relevant authors in the design field (Bonsiepe, Manzini, Margolín, Papanek, Cortina) and on the analysis of relevant bibliographical sources belonging to different fields, such as economic, business, ecological and social, establishing relationships and differentiations with the terms of ecodevelopment, ecodesign, globalism, growth, ecological balance and circular economy.

The results of the present work show that for the disambiguation of the term sustainability it is necessary to simultaneously consider 5 areas: economic, political, environmental, social and cultural, and point out the current pre-eminence of an economicist vision of the term that is made visible through an excessive faith in technology, a biased vision of sustainability that benefits the current economic system, the integration of the social factor exclusively from the responsibility of the company, and a vision of the future based on a design that lacks the necessary critical foundation to stop feeding a culture based on unsustainable consumption and production models.

As this is a timely topic, the relevance of this study for the field of design lies in two aspects: on the one hand, it allows the current designer to better understand the concept of sustainability, moving it away from a biased view, normally oriented only towards commercial purposes; on the other hand, in the field of education, the results of the study can be easily integrated into the curriculum of the current Degrees in Industrial Design, allowing the students and future designers to enrich their training with a more complete and critical view of the term, while at the same time allowing them to understand the need to integrate ethical values into the design process.

Keywords: sustainability, sustainable development, sustainable design, ecodesign.

1 INTRODUCTION

Sustainable human development has evolved from a concern to a necessity. The growing unsustainability of today's societies, shaped by industrial capitalism, is pushing the limits that guarantee the continuity of life on the planet. As in other disciplines, design, understood as a cultural phenomenon [1], also reflects the current civilizing downfall. We can observe this concern from different angles: by observing the growth in demand for products designed with sustainable values, through the numerous publications that are being published on themes related to sustainable processes, and the success of some concepts such as the term design for social innovation, developed by Ezio Manzini [2], or the term design in transition, which has its origin in the philosophical bases that support the so-called movements in transition.

In view of this new situation, we believe that, in order to guarantee a good framework of action for a design that supports sustainable processes in society, it is necessary to deepen its complex significance through a critical approach to its current conceptualization. This is a complex issue

because, although it is a widely used and spread word, it lacks general consensus. Thus, when we speak of sustainable development or sustainability, we find ourselves faced with a term that has suffered a considerable loss of credibility, fed both by the obscure use of the business world that has invoked it as a fashionable, opportunist and not rigorous accessory [3], and by its lack of concreteness. Thus, in the debate on sustainable development, it is usual to observe a great diversification in its interpretations, generally due to the prioritization of some components over others.

2 A CRITICAL APPROACH TO THE CONCEPT OF SUSTAINABLE DEVELOPMENT

In 1987, the United Nations World Commission on Environment and Development (WCED), through its report 'Our common future', also called the Brundtland report, popularized the term sustainable development as one that meets the needs of the present generation without compromising the ability of future generations to meet their own needs [4]. This generalist desire concealed an opaque concept, where neither its content nor the way to carry it out was specified. Interestingly, this ambiguity helped a great deal in its subsequent success [5].

The following decades were very critical years for the concept of development (understood as growth). Richard Clinton [6] commented that acceptance of the finiteness of the planet implied a 180-degree turn in our attitude towards growth, mistakenly regarded as equivalent to progress, and that the challenge of improving the quality of human life opened the doors to unlimited opportunities, beginning with the acceptance of the physical limits of production, as well as the sovereignty of nature, that is, of the physical and biological laws, considering it perhaps the most difficult and profound change of humanity.

Throughout the 1970s, numerous scientific publications came to light showing concern about the environmental problems caused by the aggression of the productive forces, questioning the viability of growth as a global objective. In this decade Maurice Strong coined the term ecodevelopment, combining the two concepts into one. Ignacy Sachs [7] is responsible for disseminating it to the scientific world, especially in Latin American countries. Sachs sought to reconcile the increase in production (socio-economic elements) with the different ecosystem realities (ecological elements) of each region. This new vision finally laid the foundations for the birth of the new concept of sustainable development, replacing the concept of ecodevelopment.

The concept of sustainable development includes, in addition to some principles of ecodevelopment, two new ideas: sustainability and globality. Its ambiguity lies in the acceptance of the existence of limits to life models incompatible with ecological balance, while maintaining the belief in economic growth, or development, to satisfy human needs, which also remain undefined [3]. This economicist vision of sustainability still persists today. Jiménez Herrero [8] points out the success of the concept to the fact that it inherently defends a strategic approach with a reformist and optimistic character in contrast to the pessimism of the past. According to the author, this approach masks an old contradiction: the impossibility of indefinite growth (and therefore of sustained growth) of the world economic subsystem while maintaining a dynamic balance with the physical limits of the biosphere. The inability to export current levels of consumption and production from the rich world to the rest of world society is evident. Thus, the first premise for sustainable development at the global level is the reduction of the opulence and economy of waste and a radical transformation of the dominant economic structures [8].

It is clear that the concept of sustainable development has gone together with an economicist approach, causing more conflict in its definition. Over time, a tendency to balance economic values with other vital values such as institutional, cultural and social values is consolidating. Jiménez Herrero [8] calls it integral sustainability, affirming the need to recognize these dimensions to the detriment of the economic vision, that is, to assume new human and natural values in order to harmonize the transformations of productive structures with a sense of distributive equity, ecological responsibility and endogenous cultural identity. The author criticizes the current culture of satisfaction in consumer societies, instigating the search for other ways of satisfying needs, revaluing the development of human capacities, personal progress and the improvement of the quality of life, looking for a way to be more, and not just to have more. In the same vein, Goulet [9] points to the need to ensure sustainability by addressing five areas: the economic, in order to make good use of resources; the political, with the capacity to involve all individuals in a society that is fair and harmonious with nature; the environmental, capable of demanding the maintenance of the diversity of life forms and biosystems, a restorative use of resources and the elimination of waste within the limits

of nature's absorption; and finally the social and cultural, which guarantee the protection of the foundations of the community and of symbolic systems.

Nevertheless, we still have time to make progress in terms of sustainability, even if this means major changes at the social, economic, educational and cultural levels. Riechmann [10] believes that improving the quality of life and moving towards sustainability requires not only 'doing' (things, works, great technological feats, etc.) but also 'not doing', which poses a problem for technologists and engineers, and in general for the Western culture so addicted to doing and consuming. Taking into account the great civilizing crisis we are in, and the consequences that our present actions will have in the future, we believe it is necessary to reflect on the current design culture based on questions such as: what are we doing and where are we going?, do we continue along the path of unlimited and unsustainable growth or do we choose the path of sufficiency and sustainability with the capacity to enhance human and environmental capital? and last but not least, what do we understand today by sustainable design? In the following section we will try to answer them.

3 CONCEPTUAL AMBIGUITY IN SUSTAINABLE DESIGN

The concept of sustainable design has its origins in the popularization in the 1980s of the term sustainable development. The conceptual ambiguity, to which we referred earlier, is further complicated in the field of design by the predominance of a markedly economicist vision that seeks to persuade and create desires among consumers of products that are designed in response to the trends that are moving towards the promotion of sustainability. This situation has led to the rise of critical voices ([11], [2], [12], [13]) who see design as an intellectual activity that goes beyond market interests, and who question the irresponsible attitude of many design professionals towards the research of sustainable solutions.

As early as the 1970s, Papanek [13] warned of the negative consequences of the practice of design without any kind of social responsibility and, although his denunciation introduced important elements into the discourse of design such as the social and environmental dimension, his position remained marginal and did not have a significant impact on the profession. Two decades later, the term sustainable development emerged, integrating social and economic issues into the ecological dimension and proposing economic growth based on sustainability policies. It is then that other concerns are raised about the model of sustained growth proposed by the neoliberal system and its values. Once again, voices were heard in the world of design calling for a change in values. Ezio Manzini calls for a drastic change in consumption patterns with these words: "what we are experiencing today is, in reality, a structural crisis, and the real topic of discussion is the global model of development" [12]. Years later, Margolín [12] points directly to the responsibility of design professionals, since it is they who have to decide if they continue to be part of the problem or the solution. Gui Bonsiepe [11] harshly criticises the current discourse of design, accusing it of being based on the media event and the spectacle, on the ephemeral and on fashion, increasingly distanced from the intelligent solution of problems and more oriented towards mere cosmetic variation, with exclusively commercial and marketing objectives.

That is why when we talk about sustainability we should not only look at a part of its components, but all of them must interact and relate to each other continuously. This question implies that, in the conceptualization of sustainable design, the procedure must be the same, that is, all interrelations must be taken into account, which necessarily implies the integration in the design processes of strategies other than the environmental ones that are predominant in ecodesign. But to speak of sustainability in design is to speak beyond ecodesign, beyond the minimization of environmental impact: sustainable development implies a trajectory, a process of directional change, a path from which to use design as a means to break with unsustainable situations from all their dimensions. In this line, Deganello [14] aims at a solidary and sustainable design that also takes into account the ethical dimension of the project:

"(....) Today, in view of the crisis and the increasingly dramatic destruction of the planet's resources, the design that we have done and taught so far, the design of Starck's juicer, no longer makes sense. And I proposed, as I have been doing for some years now, to transform all our schools into schools of solidarity and sustainable design. (...) I agree with François Burkhardt's proposal for an interdisciplinary "global project", which rediscovers the ethical dimension of the project and leaves aside a theory of design that is only obsessively and uncritically focused on a merely economicist vision of design itself" (p. 67).

This debate is growing in the world of design, becoming visible through demands such as the social responsibility of the designer or also in the acceptance of the social, cultural, economic and environmental impacts derived from his or her project work. In recent years, especially after the crisis of 2008, an ethical and humanist reflection on design has re-emerged but, despite the fact that there are many institutions and organisations that recognise the social responsibility of professionals, there is no clear position regarding the definition of the concepts of sustainability and their integration into design. Ambiguity continues to be the general trend, so conceptual transference in the practice of design requires a reflection on the environmentalist tendency that we adopt, and from where we position our work. Norton [15] points to two types of notions that address different paradigms:

- Weak sustainability or economic sustainability, formulated from the standard economy, is one that takes into account the reduction of stocks, is favorable to the economic dimension and does not consider irreversible impacts on the ecological, socio-economic or cultural environment [5]. From this moderate and conservationist perspective, there is no incompatibility between economic growth and conservation of natural capital as long as technology advances. Among the main characteristics are an orthodox view of the economy, a mercantilized nature, an anthropocentric panorama and a mechanistic and reductionist conception [16].
- The strong sustainability or ecological sustainability, formulated from the rationality of the physical economy and the economy of nature that is ecology [5], establishes the bases in ecology and the criticism of the prevailing economic system as directly responsible for the current unsustainability of the planet. The most critical and humanist visions, situated in social ecology, defend a sustainable human development with natural systems, where deep transformations are necessary on economic systems [17]. Among the main characteristics of this perspective are dependence on nature, a multi-systemic conception, an ecocentric outlook and a vision of the economy integrated into the ecosystem where continuous growth is not possible [16].

These seemingly opposing views are best understood when they are represented on an axis, or imaginary line (Figure 1), at the extremes of which are the ideal typologies of weak and strong sustainability.

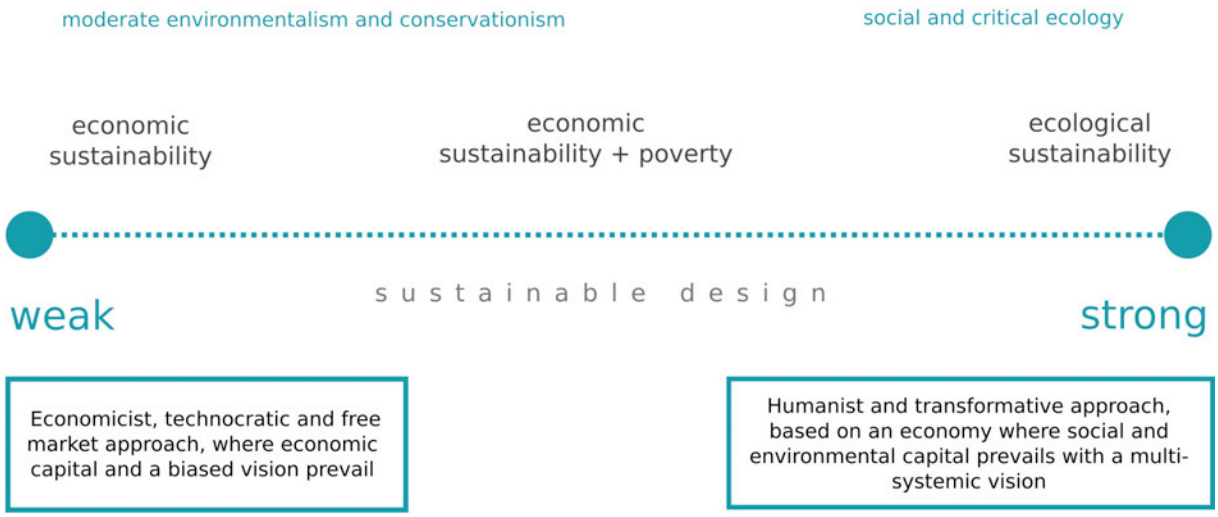

Figure 1. Currents of environmental thinking in the practice of sustainable design

Taking into account the unsustainability of the current system, which causes a large part of greenhouse gas (GHG) emissions and the growing gap in social inequality, we can only consider strong sustainability as the most appropriate way to integrate it into design, since it is difficult to achieve a sustainable society without abandoning those economic models based on unlimited growth at the expense of human exploitation and the plundering of finite resources.

Thus, we can see that it is common for designers with more critical thinking about the system to position themselves towards a more humanistic approach. This is the case of Víctor Margolin [18], who approaches design from the strong perspective of sustainability:

“Designers have the ability to envision and give form to material and immaterial products that can address human problems on a broad scale, and contribute to human well-being (...) well beyond green design or ecodesign which, thus far, have represented designers attempt to introduce ecological principles to the market economy” (p. 90).

However, nowadays, this is not a common practice in design, since in many cases economic conditions and therefore weak visions of sustainability prevail. This is the case with the recent concept of the circular economy. We are facing a continuist proposal of the unsustainable model of economic growth that includes the environmental dimension, ignoring the rest of the components. The words used in the European Commission's Europe 2020 strategy are very clarifying, since they do not speak of promoting changes in production and consumption patterns, but of contributing to growth and increasing productivity:

“The EU already anticipates a 15% increase in the productivity of its resources between 2014 and 2030 in the traditional scenario. Implementing smart policies to promote the transition to a more circular economy, as required by the European Platform on Resource Efficiency, could double this rate. In addition to contributing substantially to the sustainability dimension of growth, increasing resource productivity by 30% would also have a positive impact on job creation and GDP growth” (p. 16) [19]

A year later, the European Commission issued a press release in which it can be seen how the term sustainability relates to the use of economicist concepts, such as competitiveness or growth, and also environmental concepts, such as recycling or the life cycle, ignoring the rest of the components of integral sustainability [20].

From a more social point of view, focused on countries with greater poverty, the approach to sustainability that the University of Delft and UNEP have taken in their Design for Sustainability manual is based on an eco-design methodology that also includes other productive, economic and social elements to cover the needs of industry in developing countries [21]. Design for sustainability (also known as D4S) aims to provide ecological solutions to poverty at the local level, although they do not take a critical view of the causes of poverty. Visualizing it in the axis shown in figure 1, this Sustainable Design approach would be more or less in a central position since it does not propose profound transformations of the economic system, the main cause of the increase in poverty in the world.

As we have seen, the current conceptualization of sustainability in design is very diverse. In general, there is little criticism of the dominant economic system, where a vision of weak sustainability or economic sustainability prevails. However, concern about the uncertainty is growing everywhere, and it seems that in a few years' time we will see an increase in sustainability policies. That is why we consider it necessary to take a firm stance in order to resignify the term sustainable design without ambiguities, a design that is critical of unsustainable models of production and consumption, where the integration of the ethics of sustainability into the design process is a reality in order to orient our actions towards the continuity of life on the planet.

4 CONCLUSIONS

Design as a professional activity linked to the market, and therefore to the symbolic exchange of goods and services, must ask itself what is the internal goal it seeks to guarantee the survival of the human being [22], that is to say, if it continues in the line of an unsustainable development based on excessive economic growth (maintained at the expense of the exploitation of natural and human systems) or on the contrary begins to walk alongside an economy based on solidarity, sustainability, participative and humanist practices, which seek the satisfaction of needs and the integral development of the human being and the community over the maximization of economic benefit.

In view of the above, we can conclude that the integration of sustainability in design inevitably entails the questioning of the current economic system, due to its inability to harmonise with nature and to incorporate the human factor into its activities. If we also understand sustainability from a strong, multi-systemic point of view, it is impossible not to consider the need for a change in the consumption and production habits of the most developed countries. In these societies, the acquisition of goods and services is carried out as a cultural guideline and, therefore, the products become systems of signs that transmit information, values, ideas and emotions. Consequently, the material and symbolic world we are building can contribute to nurturing the cultural wheel of consumerism.

The state of the art of sustainable design shows us the current pre-eminence of a weak or economicist vision that is made visible through different aspects, such as:

- faith in technology, a belief that with the help of technology we will be able to design more efficient and sustainable products without having to break with current consumption and production patterns, which are the main drivers of climate change.
- a biased view of sustainability, where the environmental and economic dimensions generally predominate, thus maintaining the status quo of the current economic system;
- the integration of the social factor exclusively from the viewpoint of the company's responsibility, without taking into account possible social or cultural strategies in the configuration of the product itself that may help in sustainable transition processes;
- an optimistic vision of the future, based on the capacity of design to create goods and services that help human well-being but lack the critical foundation needed to stop feeding a culture based on unsustainable consumption and production patterns.

Based on the overview developed in this article, we consider necessary an integral and systemic vision that breaks with the partial approaches from one or two dimensions, which lead to increasing the difficulty to understand the meaning of the term sustainable and to generate erroneous or confusing definitions, as usually happens with sustainable design and ecodesign. To speak of sustainability in design is to speak beyond the environmental dimension, being necessary to go beyond a theory of purely economic design and integrate an ethical dimension into the project from the point of view of solidarity and the sustainable transformation of society, through the design of goods and services that help to achieve sustainable human development, with all the complexity that this implies.

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